

For Western Bay of Plenty District Council

Archaeological Assessment

Athenree to Waihi Beach Crossing Options



By B. Gallagher and R. Al-Kubaisi (MishMish Heritage) July 2021

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1 Introduction

A proposed Waihi Beach to Athenree shared Pathway Connection and 'Crossing' over the Waiau Estuary, is a proposed section of the future 'Tauranga Moana Cycle Trail' being developed by Western Bay of Plenty District Council (hereafter referred to as WBOPDC), and aim of this report is;

- To identify and assess archaeological sites within the project area,
- To understand the impacts the 5 proposed routes may have on archaeology,
- To provide a background to community members with regard the historic context of the area
- To provide recommendations to limit impacts on archaeology.

Regardless of the route options assessed, all are located within an extensive, significant Maori landscape including pā, settlements and cultivations. In summary, the recommendation of this report is that;

Route 4 is the preferred option based on avoidance to known archaeology, disturbed crossing point on the Waihi Beach side, reflection of tradition trackways and access point to the estuary on the Athenree side, education potential, amenity value, and a short crossing point closer to Island View. This option will extend from Dr North reserve north to pa U14/50 before crossing the Waiau to Waihi Beach and the existing cycle path.

No known archaeology will be impacted by this option.

This is a report of historic and archaeological information and tangata whenua should be consulted with regard cultural impacts.

2 Project Background

A proposed Waihi Beach to Athenree shared Pathway Connection and 'Crossing' over the Waiau Estuary, is a proposed section of the future 'Tauranga Moana Cycle Trail' being developed by Western Bay of Plenty District Council (hereafter referred to as WBOPDC). This report commissioned by WBOPDC has been prepared to inform the ongoing consultation process with regard archaeology and heritage at its potential locations and development. It is intended that this archaeological assessment/report is a companion document to the feasibility report prepared by Tonkin & Taylor Limited and will be appended to it, and will be disseminated to the community.

Waihi Beach and Athenree are recognised as landscapes of high archaeological and cultural value and significance with numerous recorded pa and known archaeological sites, including prehistoric workshops and middens. Because of this, thorough background research has been conducted in making this assessment, including; site inspection, NZAA ArchSite records, the NZHPT Register of Historic Places, Historic Areas, Wahi Tapu and Wahi Tapu Areas, articles, photography and previous heritage reports have been consulted.

3 Scope of Report

Five routes for the proposed crossing have been put forward for consideration. Details of these routes and the potential construction methodologies are dealt with in the Tonkin & Taylor feasibility report, this document does not attempt to reproduce the information set forth by the T&T report but is intended to be read in conjunction with it.

This report is required to address:

- The proposed location(s) of the Waihi Beach to Athenree Crossing
- Understanding the archaeological and heritage context
- Archaeological and heritage impact

4 Methodology

This is a predominantly desk based assessment and is concerned with identifying historically recorded activities and recorded archaeological sites and features in the vicinity of the proposed crossings. It takes into consideration the known topography of the area and attempts to assess the potential for archaeological evidence that could have survived in the project area.

To accomplish this, a number of sources have been consulted including the New Zealand Archaeological Association's (NZAA) site record database (ArchSite), Western Bay of Plenty District Council's District Plan (WBPDP) via their MAPI resource, The Heritage New Zealand Pouhere Taonga (HNZPT) heritage list and online library for previous archaeological reports relevant to the area, Retrolens.nz for historic aerial photography, QuickMaps for early survey plans relating to historic activities within the proposed development area, and literature on the history of the area.

The risk to known archaeological sites has been assessed on a scale of 0-3, with 0 no risk and 3 High risk. This risk assessment has been produced based on the types of site, consideration of land modification and environmental changes, and the likelihood of the extents extending beyond the established site record.

NO RISK			HIGH RISK
0	1	2	3

Hui and two hikoi have been facilitated by Western Bay of Plenty Council to include Te Whanau a Tauwhao and community representatives. The first hikoi focussed on the Athenree side of the proposed works, and the second on the Waihi Beach side. Korero at Otawhiwhi Marae occurred prior to each hikoi to understand the routes being considered

5 Statutory Requirements

5.1 Heritage New Zealand Pouhere Taonga Act 2014

The purpose of the Act is to promote the identity, protection, preservation and conservation of the historic and cultural heritage of New Zealand. Both archaeological and heritage values are considered.

The Heritage New Zealand Pouhere Taonga Act 2014 (here after referred to as the HNZPT Act) defines an archaeological site as a place associated with pre-1900 human activity, where there may be evidence relating to the history of New Zealand. Historic and cultural heritage may relate to post-1900 activity, and its identification may be important to a particular place and its identity.

There are a variety of pre-1900 archaeological sites in New Zealand including, but not limited to;

Maori and European midden (rubbish) dumps and structures, Maori pa sites and cultivation, gardening or food storage features in the form of pits, rock art sites or shipwrecks.

Any person who intends carrying out work that may modify or destroy an archaeological site, or to investigate a site using invasive archaeological techniques, must first obtain an authority from the Historic Places Trust. The process applies to sites on land of all tenure including public, private and designated land. The HNZPT Act contains penalties for unauthorised site damage or destruction.

5.2 Resource Management Act 1991

The Resource Management Act 1991 (s.6) identifies the protection and management of the historic environment as one of the mandates for local authorities. It provides guidelines for the appropriate use, development and management of historic heritage, and the natural and cultural environment. Section 6 (f) recognises this function as a matter of national importance (RMA Amendment Act 2003) and provides regulations for sustainable management.

By definition, historic heritage includes those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures, this includes:

Historic sites, structures, places and areas; archaeological sites; and sites of significance to Maori.

Under the RMA, local authorities have the responsibility to identify significant heritage areas, places and objects in district plans and to provide an appropriate level of protection and management of these resources.

This also includes historic heritage as defined in the RMA (s.2) with the following qualities that may reflect and allow greater appreciation and understanding of New Zealand's history and culture through:

Natural and physical resources, archaeology, architecture, culture, history, science and technology.

Local authorities have a responsibility to protect historic heritage within their district or region. Protecting historic heritage involves identifying historic heritage places, managing adverse effects and promoting the protection of heritage values in accordance with conservation principles (NZHPT2004) Historic Background.

6 Physical Environment

The proposed crossing is intended to connect the two sides of the Waiau Estuary, the estuary is at the mouth of the Waiau River which wends toward the Athenree Gorge. It is located at the northern end of Tauranga Moana. It also acts as a division between the sand dunes on the east side of the estuary and an old volcanic terrace formation (seen in figure 1), which acts as a hard standing on the coastal edges of Athenree (Moore, 2008). The Athenree area is defined as low Pleistocene marine terraces capped with tephra-derived soils. The underlying volcanic terraces are ash covered from between 1-8m in depth and date from about 60,000 years (Braithwaite and Christie, 1996). Where they have been identified on the eastern side of the Waiau estuary at Bowentown, they have created a hard standing on which prehistoric settlement has concentrated itself and this also appears to be true of its location at Athenree.

Waihi Beach sits on a wide sand spit (tombolo) that makes up most of the southern end of Seaforth Road until the Bowentown Domain. The tombolo links with a series of volcanic landforms and gently seaward sloping terraces on its western side. An igneous headland of rhyolitic, andesitic and dacite rock lies to the immediate south west of the pipe location which have been intensely occupied in prehistory, with numerous pa developments evident (Phillips, 2001, McFadgen, 1982).

There is a wide tidal range seen in the estuary with a narrow channel meandering through the middle, leading to dense mangrove cover at the river's mouth. The Estuary has a long tradition as a common Fording area from prehistory through to today, allowing easy access to Waihi Beach from Athenree, Waihi and the Bay of Plenty before roads were created.

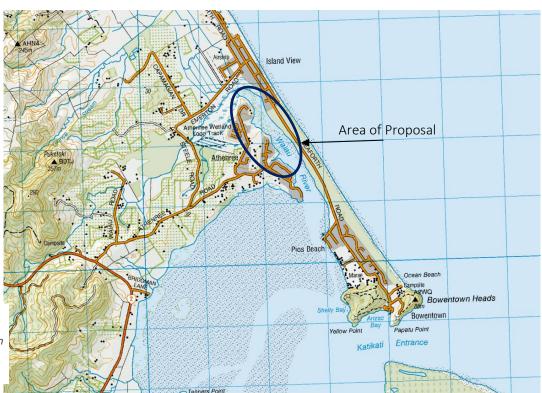


Figure 1: Location of works, Waihi Beach/Athenree, Western Bay of Plenty.

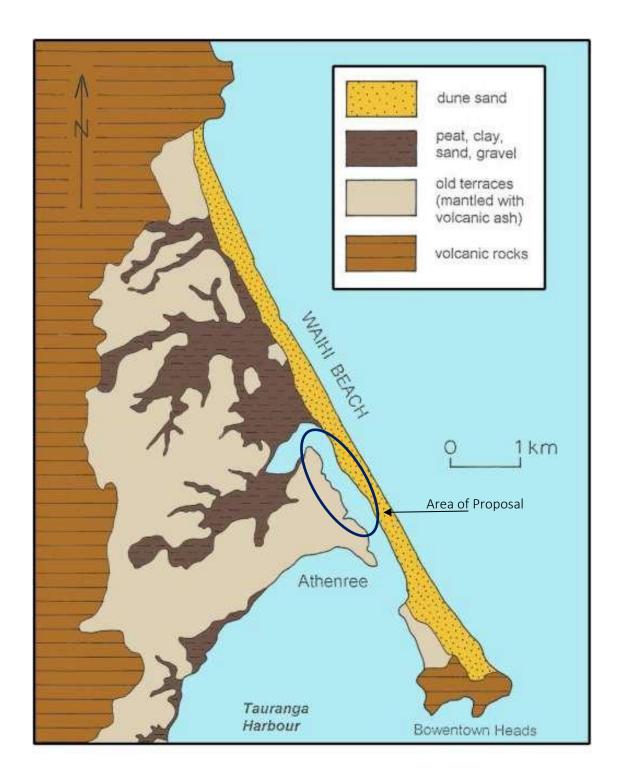


Figure 2: Simplified geological map of the Waihi Beach-Athenree area (after Braithwaite and Christie, 1996).

7 Historic Background

7.1 Maori

The areas known today as Waihi Beach, Bowentown, and Athenree have been visited and occupied by a number of waka, iwi and hapu, including the Tainui, Te Arawa, Takitimu and Mataatua Canoes which are recorded as arriving in this order. Genealogy links these waka to the peoples of Nga Marama, through to most recently Te Whanau a Tauwhao hapu of Ngai Te Rangi who have maintained Otawhiwhi Marae at Waihi Beach/Bowentown. Other hapu and iwi groups also identify and whakapapa to this area including those descending from the Tainui waka and maintain permanent Marae in the Hauraki and Coromandel today.

The local environment maintained a wide array of marine and inland resources from kaimoana including shellfish, fish, kina, eels and koura (crayfish), to lowland cultivation of kumara and bracken fern to inland forests and bush providing timber for building and waka, berries, and birds (Stokes, 2006 in Te Raupatu a Tauranga Moana). The presence of the ocean foreshore, harbour and estuarine environment, wetlands and the Waiau river meandering inland has created a resource rich landscape enabling Maori to thrive since first arrival from Eastern Polynesia. With population growth the area was favoured for its resource range, leading to competition, pā development and conflict, resulting in areas now considered to be Waahi Taapu, such as the end of Koutunui Road where Koutunui and Anatere pā are located. Battles in the foreshore shores and estuaries are recorded as part of traditional korero and backed up by the discovery of koiwi along the foreshore and harbour margins outside Otawhiwhi Marae and Waipaopao. Although these examples lie outside the immediate area of works, korero suggests a similar pattern of conflict and blood shed close to the proposed walkway routes where the natural environment, the Waiau estuary and wetland, has supported preservation and burial in the sediments and slow moving swamp environment.

In 1962, in the Waihi Borough Council Diamond Jubilee Booklet 1902-1962, recorded a similar narrative;

[Maori] each built fortifications, and in time increased to such an extent that separate tribes sprang up at Bowentown, Athenree, Kauri Point, Waihi Beach and Mataura. They cultivated the land from the sea to the foot of the hills, but relied mainly on their remarkable skill as fishermen, both on the sea and muddy creeks, to give them their supply of food. This supply was abundant, the soil was very fertile and the tribes prospered and became probably the most powerful in New Zealand.

There is no doubt that the traditional korero shared during hikoi and the results of archaeological investigation supports this and also the significance of the sand dunes within the Bowentown Domain both sides of Seaforth Road as a settlement (low land/foreshore pā) and burial area. Gilbert Mair's records describe Maori burials, dressed in European clothing laid out in the sand dunes along the Seaforth Road spit/tombolo and traditional korero also describes the use of these dunes for similar purpose, further back in time before European arrival. Traditional trackways to Athenree and Waihi Beach from inland were also present and essentially align with what is now Athenree Road and cross private property through to Roretana and Pohutukawa Roads and across the Waiau Estuary.

Early European accounts describe the Tauranga Moana area as one of dense population by Maori. Archaeology backs this up with many recorded archaeological and historic sites within and immediately south of Waihi Beach and Athenree, including the larger pa sites Kauri Point, Ongare and Tuapiro, Anatere and Koutunui (Athenree) and Te Kura a Maia, Te Ho, Waipaopao, Otawhiwhi and Te Pa a Auturourou (Waihi Beach/Bowentown) (Golson

1964, Shawcross 1964, 1966, McFadgen 1991, Phillips and Allen 1996, Phillips, K. 2001). Settlement, gardening and urupa are also known on these sites.

Figure 3 shows a broad summary of Maori land use on a 1948 aerial photo showing ae



Figure 3:1948 Aerial Photograph of the Athenree Peninsula in relation to Waihi Beach and the Pacific Ocean, with summarised traditional Maori land use Source: SN229 488 88 - Retrolens.nz

7.2 Early Survey and Land Court Records

The crossings points are situated at the northern end of the Te Puna-Katikati Blocks and historically part of the Tauranga Moana lands proclaimed as a district under the New Zealand Settlements Act May 18 1865 (Waitangi Tribunal Report, Te Raupatu o Tauranga Moana:4). The Te Puna-Katikati Block was purchased by the crown in August 1864 following conflict in the Waikato and Tauranga; which in today's political climate and with greater understanding of the causes and impacts of colonisation, can be considered a land confiscation leading to land alienation.

When viewed in tandem with the theatre of earlier inter iwi conflict resulting from Nga Puhi taua/war parties arriving in the Bay of Plenty in the 1820-30s after acquisition of musket resulting in the displacement of many Maori until safe to return, and the last known battle between Ngai Te Rangi and Hauraki in 1842? at Ongare, the political environmental provides context to the ease of which the Western Bay of Plenty, including Waihi Beach

was easily settled by Europeans from the 1870s. Samuel Marsden on his tour of New Zealand in the 1820s remarked on the well cultivated gardens across the northern end of the Tauranga Harbour including Tahawai, Tuapiro and Athenree, but also the absence of people, and the crown surveyor noted the uncultivated and rough terrain as well as the absence of Maori in the search on behalf of the government for potential settlement areas.

7.3 European Settlement

It is not the purpose of this assessment to describe in detail the long list of activities and uses of the southern end of Waihi Beach and Athenree over the past c.170 years after the arrival of Europeans, but will act as an overview to put the area into context.

The Ohinemuri Journal series has a number of personal accounts that shed light on the history and environment of the area. Pertinent to this assessment, Oliver Pipe (Ohinemuri Regional History Journal No 6, 1967) remembers the sand dunes from the north end of Waihi Beach to Bowentown as completely denuded of planting, except for 2 pohutakawa, and susceptible to massive dune movement, and an article in the same publication in June 1979 describing the settlement of Athenree (Bowentown Ford and Katikati Expansion previously) at the turn of the century.

7.3.1 Waihi Beach

The foreshore along the Waihi Beach tombolo and east side of the crossing area next to the estuary was a major thoroughfare before Seaforth Road was built in the 1950s, and this use as a vehicle run dates back to the later 1800s when machinery, people and parts were required for the Waihi Beach goldmining operation at the north end of the beach. The main point of access prior to the construction of Beach Road in 1911 was to travel through the Athenree Gorge, along Athenree Road and cross at the Athenree Ford, before travelling along the Waiau Estuary foreshore on the Waihi Beach side where a toll at the Hanlen property close to Emerton Road today was positioned before crossing over to either the ocean beach side or a little further inland for the rest of the journey. This changed with the opening of Seaforth Road in 1957.

There is otherwise no recorded historic European settlement or land use along the Waihi Beach side of the proposed works, however early archaeological excavation did occur here in the early 1900s and will be discussed in *Section 8*.

The closest area of European activity is at Waipaopao Anzac Bay located approximately 800m south where from about 1870 a small community resided, both seasonally and permanently until its removal in 1957. Access was by sea and accounts tell that its name change to Anzac Bay in 1915 was due to a similarity t Anzac Cove, Gallipoli. Other names the Bay has been known as includes St Georges Bay, Waipaopao and colloquially, Sharks Bay due to their high number here.

Bowentown, or Katikati Heads as it was called then, was an important centre. Its harbour served as the gateway to the Bay of Plenty and Waikato districts, until bridges were established over the Tahawai and Tuapiro rivers. At Bowentown a trading centre and a boarding house were built with a telegraph station to receive and dispatch all messages to and from Katikati.

When the Katikati post office was established in 1879 the Government stipulated that if enough business didn't go through the telegraph office would be closed. It was rumoured that a settler, General Stoddard, used to send batches of unnecessary telegrams just to keep the office open (Ohinemuri Papers).

Initial access to Waihi Beach and Bowentown was via the Athenree Ford, across the narrow shallow estuary between the two areas of land. Early reports indicate that the area defined for the proposed works on the Waihi Beach side would have been used by early settlers and Maori alike to cross the estuary.

One such likely Fording route from Athenree is from the inlet approximately 100m north of the Athenree site and site U13/89, across to Waihi Beach and archaeological site U13/149 (supposedly the location of Gilbert Mairs archaic workshop and burial site in 1901).

7.3.2 Athenree

Athenree has been the site of recorded European settlement since the latter half of the nineteenth century with one report suggesting the land was purchased from local Maori for the price of a red shirt.

The earliest named non-Maori resident of Athenree (then known as the Katikati expansion) was reputedly a Negro gentleman called Toppin, who built a large trading post and boarding house out of corrugated iron. It was here that Captain Hugh Stewart and his wife stayed in 1878, nicknaming the property Tinpot Castle, before establishing their home which gave its name to the whole district, Athenree - after their home town in Ireland.

Tinpot castle was bought in the early 1880's by Charles Harley who demolished the building and built an eight roomed house called Harbour View on the site. Cattleyards and a blacksmith's forge were later developed within the vicinity. Athenree was at this stage a base for commercial fishermen, who supplied the then thriving mining town of Waihi. A smokehouse was known to have existed at the end of the point.

The relevance of Athenree to the European settlement of the wider area would appear to be two fold.

- 1. Firstly, the main access to Waihi Beach and Bowentown was at this point via the narrow shallow estuary between the land masses called Athenree Ford, it wasn't until the creation of the access road in 1957 that this changed.
- 2. Secondly as a landing point for supplies to Waihi. At high tide scows and other shallow drafted vessels were known to bring grain, tools and supplies to be unloaded at the two harbour sheds built besides the channel, which were then transferred to horse drawn wagons at low tide. Machinery for the speculative Waihi Beach mine and Waihi mining companies was known to have been landed here, before the creation of the railway.

The ford itself was remembered as a windswept place with little shelter, where there were only one or two houses.



Figure 4; The main Fording point from Athenree to Waihi Beach in the 20th century (yellow). Probable traditional fording point (red). It is probable that there was several fording points along the Waiau Estuary. Source: Alexander Turnbull Collection

8 Previous Archaeology and Recorded Archaeology

8.1 Summary

Athenree and the Bowentown reserve are traditional areas associated with early Maori activity, settlement and occupation. Athenree has multiple pa sites recorded around its shoreline with evidence of widespread land use established through the archaeological sites recorded to date, and the dynamic landscape of the sandy tombolo and dune system along Waihi Beach is dominated by shell midden sites which are episodically revealed as a result of wind and development/earthworks over time. What is described in this report is not a fulsome history of archaeological discovery but a summary of this to demonstrate the rich archaeological past present in the location of works.

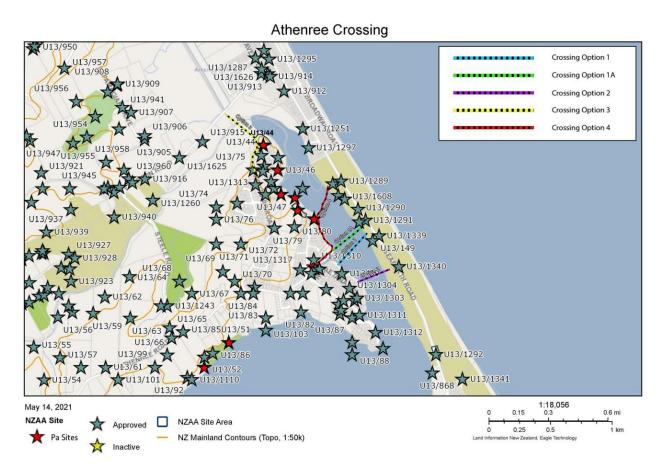


Figure 5; Recorded archaeological sites on the Athenree peninsula and Bowentown Reserve shown in relation to the proposed crossings. Pa sites are highlighted with red stars. Source: ArchSite

8.2 Athenree

Eight separate pa sites are recorded in Athenree, with six on the eastern shore of the peninsula hugging the coastal cliff and overlooking the Waiau Estuary and Waihi Beach within the proposed walkway area. Most of these pa include peripheral ditch and banks systems for defence purposes, however it should be understood that Maori land use would have extended outside these, possible connecting the pa.

Recorded Pa Sites on the Athenree Peninsula

ArchSite No.	Name	Туре	Description	Grid Ref
U13/44	Koutunui	Headland	Headland pa with pits, terraces and shell midden; defended by a ring-ditch. Findspot for obsidian flakes. Bones of five individuals in a secondary grave unearthed just inside line of bank. Site was damaged by horticulture recontouring during 1980.	E 1861701 N 5852689
U13/46	Anatere	Terraced	Terraced pa with a double line of defences. Site excavated in 1995/6	E 1861818 N 5852488
U13/78		Defended	Pa with pits and house site, defended by a transverse/lateral ditch. Midden recorded on slopes to harbour	E 1861843 N 5852289
U13/48		Headland	Headland pa defended by a series of ditches	E 1861955 N 5852263
U13/49		Defended	Pa site defended by ditches and banks	E 1861980 N 5852160
U13/50		Defended	Pa site defended to west and south by a ditch/bank. Pits, midden and cultivated soil also recorded in proximity. Findspot for obsidian	E 1862113 N 5852090

Extensive excavations have occurred inside these pa due to sub-division creation, most notably Anatere and Koutunui pa (McGovern-Wilson and Hooker, 1995, Phillips, K., 2001, Moore and Phillips, 2002).

Koutunui Pa, U 13/44, is considered the most significant and largest of the known pa sites on the Athenree side of the tidal estuary. The Athenree area has been the focus of various archaeological investigations, McFadgen (1982) recorded two distinct cultivated soils associated with the pa site U13/50, with C14 dating of the shell demonstrating activity between the mid-15th and mid-17th Centuries. Anatere Pa, U13/46, was the subject of a series of investigations as a result of progressive destruction. Phillips & Allen (1996) summarised the findings of these investigations and showed that the pa which occupied a coastal sea cliff margin and was characterised by a flight of seven low internal terraces, was originally undefended and occupied in the mid-16th Century. Their findings surmised that its first use was as a small terrace where gardening, pit storage and food preparation took place, with the fortifications dating to the late 16th and early 17th Centuries. In 2015 Brigid Gallagher recorded middens down the flanks of Anatere Pa during replanting and restoration of its sides and the wetland at its base. Both harbour and ocean shell species were present in approximately equal proportion.

Based on radiocarbon dates to date, Maori land use in Athenree area started c. 15th Century and was resourced from the harbour with an ample marine environment, and horticulture with direct evidence of gardening soils and storage pits dating from this period. Undefended occupation over the entire lowland area was superseded in the mid-16th Century by multiple coastal fortifications, using a combination of natural coastal cliffs sites and

ditch and bank defences and a concentration of internalised storage pits for securing food resources in times of conflict. (Law, 2008).



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Figure 6:1948 Aerial Photograph of the Athenree Peninsula (close up, not full image) showing headland pa in the area of cycleway routes considered. Source: SN229 488 88 - Retrolens.nz

Investigations at Pa, U13/49, by John Coster (2016) and Caroline Phillips (2017) during building works on Maori owned land, resulted in further information about the previously recorded double ditch and bank; showing that a single ditch was the first defence of what must have been a large site. It is unknown how far the ditch extended, but was filled up around 1620AD, to the point at which a double ditch and bank formed a right-angle towards the north-east and costal escarpment. This reduced the internal size of the pa, but strengthened the defences. The area outside the smaller defended site was then gardened, part of which extended west into what has been recorded as U13/50 (Roretana Block) (Phillips, 2017).

This report does not intend to describe in detail the Maori activity of the wider Athenree area, and therefore will quote archaeologist Gary Law (2008:63) who summarised that;

"The picture from the Katikati/Athenree area is one of use of both the marine resources of the harbour and the horticultural products of the soils of the area for sustenance, starting from the 15th century. There is direct evidence of gardening, with cultivated soils identified and dated, and supporting evidence provided by storage pits. Undefended occupation spread over the entire lowland area. This preceded fortification on several coastal sites that were well suited to fortification. Fortification appears to have begun in the early 16th century and is concentrated on coastal cliff sites where there was some natural defence."

Site U13/89, although outside the proposed walk/cycleway option, was seen in the coastal esplanade parallel with Roretana Drive covering a large expanse of land, approximately 300m in length. It contained evidence of separate midden deposits, pits and features containing burnt hangi stone. The middens were large and demonstrated well the scale of marine harvesting and processing that was being undertaken by tangata whenua. Moore (2001) states that,

"a further 25 sites, including 18 middens and 5 pit sites were recorded as part of the [Waihi Beach sewage scheme works] WBS, mainly on the lower terrace level at Athenree, and at the Athenree Heights."

The area is also known as a cultivation area in traditional korero, and this was confirmed during the installation of Ultrafast Fibre by Chorus in 2018-2019 which revealed several area of cultivation or modified soils consistent with Maori gardening (Gallagher report, pending). It is therefore concluded that the Athenree area was rich in pre-European Maori activity, occupation and land use both on the escarpment along the edge of Koutunui Road where pa were afforded strategic vistas, but also at lower elevations, which supported crop growth and easy access to waterways and marine resources.

8.3 Waihi Beach

The Bowentown Reserve, between Waihi Beach and Bowentown is an established archaeological landscape that as early as 1902 was being investigated by Gilbert Mair, who discovered multiple koiwi and a stone manufacturing workshop uncovered in a gale. Further excavation was undertaken by Hovell and Bell on the workshop, removing hundreds of adzes, hammer stones, drill points, grinding stones, bone artefacts, and burials. Unfortunately the precise location and details of the assemblage were never documented. (Phillips, 2002).

There appears to be no previously recorded archaeological assessment or investigation of the proposed Waihi Beach site (U13/149). The closest sites, within 300m, recorded in the NZAA ArchSite database are;

Site	Site type	Distance from site
U13/1339	Middens x2	60m, on other side of
		Seaforth Road
U13/1561	Oven stone cluster and	160m
	obsidian flake x1	
U13/1291	Midden	150m
U13/1290	Midden	260m

U13/149 relates to the excavations of Gilbert Mair 1902, and the later discoveries of S.M.Hovell and R.N.Bell in 1912-15 of the ancient Maori workshops. Their precise location is still not confirmed and the opportunity to investigate Fletcher's (1979) site location have not previously been available. Fletcher places the site on the eastern side of the Athenree Ford in the immediate proximity of the cable crossing. This location is based on eye witness corroboration albeit 65 years after the Hovell and Bell excavation and not on any physical evidence. Gilbert Mair (1902), and later Sonny Hovell and Reginald Bell (1912-1915) are thought to have found the site of an extensive archaic workshop floor, settlement features and ko iwi in the general area. Two sites were recorded as being approximately 100 yards (94.1 metres) from each other, and documents suggest they have been extensively worked over, with the potential to be completely destroyed.

For the purposes of this document the records that exist pertaining to fieldwork and excavation conducted by Mair, and later Hovell and Bell, is being considered as an early form of archaeology. Following is some of the

accounts of this work and the results they achieved. For further information, the collection at the Auckland Museum provides insight into their discoveries.

8.3.1 Gilbert Mair

Harakoko pa appears to be the name of the workshop and burial site discovered and worked over by Captain Gilbert Mair in 1902 toward the southern end of Waihi Beach. Found in the sand dunes following persistent westerly gales in the Bowentown - Pio Shores – Island View area its definitive location is unknown. The artefacts deposited at the Auckland Museum are typical of the archaic period in New Zealand prehistory with stone tools of tahunga basalt, argillite, chert, obsidian, and bone of moa, whale, seal and dog recovered. Many koiwi were also discovered nearby, but no further information has been found regarding their location.

In an article in the Auckland Star, March 11 1902 Mair writes:

"The skeletons coffined and uncoffined, now lying exposed on the sandhills near Katikati Heads, belonged to members of Urangawera tribe, living at Bowentown. The natives were all personally known to me between twenty and twenty-five years ago. The place of internment at that time was a high sand hill, which owing to stock breaking the surface, has since entirely disappeared, leaving a number of skeletons exposed to become a sport for certain unfeeling Europeans who make a practise of desecrating Maori burial places".

Mair also wrote in 1902 an article entitled "Chips from an Ancient Maori Workshop." (*Transactions and Proceedings of the New Zealand Institute* 35:240-242.)

"On the shores of Tauranga Harbour, near Katikati (Katikati was the original Maori name for the area encompassing Bowentown and the southern end of Waihi Beach), there used to be a long sandy ridge about 40 ft above sea level, covered with such plants as love the seaside. This place was known as Waiorooro (the waters of grinding or rubbing).

About ten years ago, owing to the destruction of the vegetation by fire and the trampling of stock, the sandhill began to move seawards.... Leaving, in a short time, the original surface of clayey soil, and forming a level sort of plateau some chains wide and perhaps 150 yards long, and disclosing the site of an ancient village with numerous middens and workshops."

This find was further described by Hammond.W in an undated Newspaper article, "Historic Bowentown's Early Days" (undated);

"At one place about midway between the present Waihi Beach township and the Bowen-town heads, and opposite Faulkner's Point, a great number of human bones were left uncovered...During his [Mair's] investigation he came upon the site of an ancient Maori workshop...

The light sand had blown away leaving a hard consolidated surface. About an acre of ground on the western side of the sand dunes and facing the lagoon, sheltered from the sea breezes was where the ancient Maori had worked."

8.3.2 Sonny Hovell and Reginald Bell

100 yards from the location of Harakoko (sp.) pa another large but unrecorded archaic workshop was systematically collected from between 1912 and 1915 by Sonny Hovell. Artefact types collected include up to 2000 stone adze and anvils, 5000 greenstone, bone hooks and eel pots. The location of this site has also never

been fully determined though Phillips (2000b) has reviewed the information known of the site. Like Mair, this collection was donated to the Auckland Museum.

The sites that Mair and Hovell discovered, with other the known and recorded archaeological sites at the southern end of Waihi Beach area demonstrate a long and intensively occupation over approximately 700 years. Sites range from large workshop, pa and burial sites, to small middens. From literature consulted, these sites are generally near the foreshore in position.

This viewpoint is reinforced by Mitchell, S.R. 1939, in the publication "Obsidian scrapers Bay of Plenty, New Zealand." (*JPS* 48: 56-59.)

"Between Waihi beach and Bowentown, a distance of about five miles, many of the sand-dunes are capped by remnants of shell middens... Wind erosion has removed much of the dune-sand with the consequent exposure and concentration on the present surface of the less-perishable contents of the midden. The obvious artefacts have naturally been collected, and for several miles south from Waihi beach very little stone material is to be found. Toward Bowentown heads on the narrow isthmus separating the estuary of the Athenree creek and the coast, the character of the remains changes. Large numbers of flakes, lumps, waterworn pebbles of obsidian, fragments of greywacke, jasper, and chalcedony lie scattered about... On the low-lying hill across the estuary are to be seen old cultivation trenches..."

In communication with then Curator of Archaeology at Auckland Museum, Dr. Louise Furey, with Brigid Gallagher (2012) she describes the value and context of the general site location in relation to the artefacts deposited at the museum;

"Auckland Museum has Maori material collected by Captain Gilbert Mair, Toss Hammond, Reginald Bell and Sonny Hovell, Graeme Liggins and Pat Murdoch from the 1890s through to the 1960s. The material is likely to have come from more than one location in the dunes from Island View, south [to] the dunes [...] north of Pio's Point. Bell and Hovell in the 1930s used a horse and scoop to turn over the sand and uncover the artefacts. Liggins and Murdoch were later operating on the periphery of Hovell's diggings. The adzes, fishhooks and other tools are stylistically of the type found on some of the oldest sites and predate AD1500...and [in her professional opinion] the material is of regional significance".

8.3.3 21st Century Archaeological Monitoring

In June 2001 an archaeological survey of the areas identified for future urban growth within Waihi Beach, Athenree and Island View was undertaken by Ken Phillips (K. Phillips 2001). A large number of previously recorded sites comprising predominantly pit/terrace and shell midden sites were recorded as a result of the survey.

In 2002, Ken Phillips and Phil Moore (Phillips and Moore 2002) undertook monitoring and investigation works for the Waihi Beach Sewerage Scheme. Monitoring of earthworks for the project identified 56 previously unrecorded archaeological sites across the Waihi Beach/Athenree District. The sites comprised predominantly shell midden deposits as well as food storage pits (rectangular, bell shaped rua and bin pits), cultivated soils and ovens/hangi stones – all associated with pre-European Maori occupation.

In 2012, water pipe upgrades across the Waiau Estuary resulted in focused effort by Brigid Gallagher to establish the location of Harakoko pa (sp.) (U13/149) and those described by Mair, Hammond, Hovell and Bell. An in situ shell midden mound was identified however where earthworks were required on the Waihi Beach side of the

upgrade it was concluded that the area showed marked disturbance until 60cm below current ground surface, that a buried topsoil at that depth was present suggesting the archaeological level is somewhat lower than today, and that deep disturbance layers could be the result of early 1900s excavation.

Various additional assessments and monitoring works of small and large scale rural subdivisions and small to medium scale infrastructure projects have also been undertaken in recent years (Gallagher 2015, 2016, 2017; Gallagher and O'Hagan 2017; Moore 2003, 2005, 2005b, 2006, 2008, 2011, 2012; O'Hagan and Gallagher 2016; K. Phillips 2002; Prince and Clough 2003; Prince 2004), which have provided further information attesting to the density of archaeological sites still remaining across the proposed crossing points.

9 Desktop Assessment Results

5 possible routes were identified for assessment, with some limitations placed on the route options provided by kaumatua of Te Whanau a Tauwhao ki Otawhiwhi, including, a length of coastal margin named as Waahi Taapu and shown in figure 7. Other considerations also taken in to account have included:

- The avoidance of known archaeological sites where possible
- Length of the water crossing
- The area of earthworks required, or impact on the environment
- Views of tangata whenua



Figure 7: Area identified as Waahi Taapu by Te Whanau a Tauwhau ki Otawhiwhi (in red). Google Earth/MMH.

A desktop assessment of recorded archaeological sites identified a total of 16 sites located within direct proximity of the proposed crossings, and 24 within 100m. All of the sites previously identified were associated with pre-historic Maori occupation of the area and included, pa, pits, terraces, a large number of middens, gardening soils, and lithic findspots (obsidian). These sites are listed in the Tables below in relation to specific route options.

The report has been divided into 5 proposed crossings, with the potential archaeological and heritage effects discussed below.

9.1 Option 1 – Roretana Drive (North End)

Option 1 is located on the esplanade towards the north end of Roretana Drive, extending north east over the estuary to the WBOPDC recreation reserve. It connects the Athenree Coastal Esplanade and the existing cycleway on the Waihi Beach side. It lies in close proximity to a WBOPDC watermain which was replaced in 2012 under an archaeological authority, and begins and ends at the location of two recorded archaeological sites, U13/89 and U13/149, and this route is likely to reflect a traditional pathway across the Waiau from Dr Norths Reserve. U13/149 is the probable location of Gilbert Mair's 1902 prehistoric



artefact rich workshop site, and is recorded as being up to a hectare in size. The site is known to have included koiwi (human remains) and whilst the site may well have been cleared by Sonny Hovell and Reginald Bell in 1912-1915, the site remains an important site that requires careful consideration, with intangible values. In 2012 no evidence of U13/149 was seen sub-surface, however an intact sand dune and shell midden is present in the vegetation growth next to the existing cycle path. Site U14/89 is largely destroyed in the Esplanade due to the installation of the Waihi Beach sewage system, however modified and intact aspects of this site may remain.

ASSESSED ARCHAEOLOGICAL RISK - MODERATE

Site no.	Туре	Description	Condition	NZTM	Probability of Arch Risk/Effects		
Athenree Side							
U13/89	Pits/ Midden	Pits in profile. Midden and cultivated soil exposed in eroding shoreline. Findspot for obsidian flakes; andesite/basalt flakes; stone lure/file. Very large site extending for c. 300 m.	Heavily modified	E 1862338 N 5851646	2		
Bowentown Side							
U13/149	Worksop	'Shell middens. Working floor: from 1902 - 1915 a large number	Heavily modified	E 1862588 N 5851915	2		

9.2 Option 1A – Marina Way

Option 1A is located close to the eastern end of Marina way on the Athenree side of the estuary where it crosses almost due east to Bowentown Reserve. Access is from Dr Norths Reserve follows the side of a small inlet into the Estuary, a probable traditional pathway and waka landing point. The land on the Athenree side is elevated by approx. 5m above foreshore level. Its location near Marina Way and Dr Norths Reserve means it sits

south of the major area of pa to the north. Two midden sites are located near Dr Norths Reserve and are unlikely to be affected. Some consideration must be given to the concentration of midden sites that are recorded in this vicinity, and the possibility of encountering unrecorded archaeology during works.

Currently there are no recorded sites in this route. The Waihi Beach side sits between two recorded sites U13/1561 and U13/149, with U13/1291 close by. As previously stated U13/149 is the suggested



site of Gilbert Mair's 1902 prehistoric artefact rich workshop site, and is recorded as being up to a hectare in size. Site U13/1561 represents cooking events and may connect with a far wider archaeological landscape than currently recorded, including buried charcoal rich occupation layers part of U13/1291. Due to the extensive nature of the sites historically recorded along this part of the Seaforth Road tombolo and Athenree, there is reasonable cause to suspect archaeology could be encountered regardless of known site position. It is also difficult to predict the condition of any sites.

ASSESSED ARCHAEOLOGICAL RISK - MODERATE to LOW

Site no.	Туре	Description	Distance	NZTM	Probability of Effects
Athenree Side	e				
U13/1307	Midden/ Posthole	Midden - scattered shell within topsoil and under-lying mixed soil. Mainly tuatua, with less common pipi and cockle. Some burnt shell in more concentrated lenses. Posthole (or roothole) associated with a shallow scoop of midden		E 1862120 N 5851688	1
U13/1309	Midden/ Posthole	Lens of midden - c. 2 m long and up to 30 cm thick. Predominantly pipi and cockle; some tuatua.		E 1862090 N 5851648	1

		Other species include: Turbo; Amphibola; oyster; mussel (- likely more recent shell). One possible posthole		
U13/1308	Midden	Midden - scattered shell and small concentrated lenses, within topsoil and underlying mixed soil. Mainly pipi - some cockle; Dosinia; Struthiolaria; charcoal. Lateral extent c. 7 m.	E 1862155 N 5851683	0
Bowentown S	Side			
U13/149	Worksop	'Shell middens. Working floor: from 1902 - 1915 a large number of adzes and other artefacts were reputedly found in this location.'	E 1862588 N 5851915	2
U13/1561	Ovenstones / Findspot	Cluster of oven stones. Find spot for one obsidian flake.	E 1862480 N 5852066	1

9.3 Option 2 – Roretana Drive

Option 2 extends from the Coastal Esplanade behind Roretana Drive (ArchSite U13/89 – refer Option 1), Athenree and almost due east to the Bowentown Reserve. This crossing impacts site U13/89 though it likely to have been heavily affected during the installation of the Waihi Beach sewage scheme in 2001-02 has limited impact on previously recorded archaeological sites. Sites U13/1302-1304 have been identified within the Roretana Road road reserve and do not extend into the works area. Likewise site U13/1340, a pit site, will not be affected. Due to the archaeological nature of unrecorded archaeological



remains are present along the length of the esplanade and the Bowentown Dune system given the levels of occupation and settlement that is known to have existed.

ASSESSED ARCHAEOLOGICAL RISK - LOW

Site no.	Туре	Description	Distance	NZTM	Probability of Effects	
Athenree Side						
U13/1302	Midden	Midden - scattered shell within topsoil. More concentrated shell beneath tree roots adjacent to manhole. Mainly cockle; pipi;		E 1862441 N 5851428	0	
		tuatua. Minor shell in topsoil in front of no. 2 Roretana Drive.				
U13/1303	Midden	Midden - scattered shell throughout topsoil (lower part). Mainly pipi; cockle; with minor burnt stone. Some charcoal in topsoil.		E 1862461 N 5851448	0	
U13/1304	Midden	Midden - minor broken shell within topsoil. Lateral extent - 6 to 7 m. Mainly tuatua.		E 1862401 N 5851528	0	
Bowentown S	Side					
U13/1340	Midden	The site consists of a midden lens c.3m long and up to 10cm thick. There is a pit-like feature at the NE end 80cm wide x 35cm deep. Midden continues to NE and S as a thin layer of dispersed shell beneath dune.		E 1862800 N 5851704	0	

9.4 Option 3 – Koutunui Road (DISCOUNTED)

Option 3 is located to the North of Koutunui Road, hugging Koutunui pa in Athenree, and descending 18m to the North West over the wetlands towards the Waihi Beach airstrip on Emerton Road. This route has been discounted from further assessment for a number of reasons which include the sensitivity of the cultural and heritage location and its impact on the area – the area at the base of the high escarpment has been identified as Waahi Taapu by Te Whanau a Tauwhao ki Otawhiwhi. Koutunui pa which lies adjacent to the route is the largest and one of the most important of the pa sites on the Athenree



Peninsula. The pa is of high value and significance to multiple iwi groups.

ASSESSED ARCHAEOLOGICAL RISK – HIGH, to be avoided

Site no.	Туре	Description	Distance	NZTM	Probability of Effects
U13/44	Koutunui Pa	Headland pa with pits, terraces and shell midden; defended by a ringditch. Findspot for obsidian flakes. Bones of five individuals in a secondary grave unearthed just inside line of bank. Site was damaged by horticulture recontouring during 1980	< 10m	E 1861701 N 5852689	ω
U13/1322	Pit	Pit - 60 cm deep and 50 cm wide; length not determined. Filled with loam; shell; charcoal; broken stone.	< 60m	E 1861685 N 5852606	0
U13/75	Midden/Pit	Five midden exposures and one pit (in profile) recorded in 1980. Findspot for nine pieces of obsidian	< 50m	E 1861618 N 5852487	0
U13/1321	Midden/Pit	Pit filled with concentrated shell midden (predominantly tuatua).	< 100m	E 1861708 N 5852518	0
U13/1316	Midden/Pit	Small pit - c.1 m x 0.7 m and 40 cm deep. Filled with shell and brown loam. Disturbed midden in topsoil nearby; at foot of bank.	< 100m	E 1861698 N 5852477	0

9.5 Option 4 – Pohutukawa Drive (North End)

Option 4 requires a timber board work to be erected next to the Athenree Coastal Esplanade from near Dr Norths Reserve, continuing north past Marina Way until the edge of pa U13/50, where the crossing across the Waiau will land at the existing cycleway on the Waihi Beach side.

The location on the Athenree side is close to several recorded archaeological sites, making land beneath pa site U13/50, but the



sites are elevated and unaffected by the crossing, providing the bank of the slope is not destabilised during construction. The tracks final connection point to the south is the same as option 1A and requires consideration for the concentration of midden sites near the access to Pohutukawa Drive. The Bowentown reserve side is near recorded site U 13/1559, a midden, and there is some risk new archaeology could be encountered, but no higher than any of the other route options.

ASSESSED ARCHAEOLOGICAL RISK - LOW to MODERATE

Site no.	Type	Description	Distance	NZTM	Probability of Effects
Athenree Sid	de		l		l
U13/50	Pa	Pa site defended to west and south by a ditch/bank. Pits, midden and cultivated soil also recorded in proximity. Findspot for obsidian.		E 1862113 N 5852090	1
U13/1307	Midden/ Posthole	Midden - scattered shell within topsoil and under-lying mixed soil. Mainly tuatua, with less common pipi and cockle. Some burnt shell in more concentrated lenses. Posthole (or roothole) associated with a shallow scoop of midden		E 1862120 N 5851688	1
U13/1309	Midden/ Posthole	Lens of midden - c. 2 m long and up to 30 cm thick. Predominantly pipi and cockle; some tuatua. Other species include: Turbo; Amphibola; oyster; mussel (- likely more recent shell). One possible posthole		E 1862090 N 5851648	1
U13/1308	Midden	Midden - scattered shell and small concentrated lenses, within topsoil and underlying mixed soil. Mainly pipi - some cockle; Dosinia; Struthiolaria; charcoal. Lateral extent c. 7 m.		E 1862155 N 5851683	0

U13/1559	Midden	Midden covering area of about 4	E 1862264	1
		x 3m. Consists mainly of pipi and	N 5852374	
		small tuatua.		

10 Discussion and Conclusions

Previous work has established that subsurface archaeological remains, predominantly shell midden deposits as well as pits, postholes, artefact findspots and cultivated soils associated with pre-European Maori occupation, are commonly encountered along the foreshore of the Bowentown recreational reserve and along the lowland areas of the Athenree Peninsula. The coastal cliff zones of Athenree are characterised by defended pa sites with ditch and bank constructions, and avoidance of these areas would be a priority given the density of recorded sites. There are 16 sites that have a probability of being affected, 7 of these must be considered negligible, and 1 high, of the remaining 8 sites 2 should be considered to have moderate risks associated with the proposed works. The 1902 Gilbert Mair site remains a concern for 3 of the proposed crossings as its extents and exact location remain in some doubt.

Crossing OPTION 1	MODERATE RISK
Crossing OPTION 1A	MODERATE RISK
Crossing OPTION 2	LOW RISK
Crossing OPTION 3	HIGH RISK
Crossing OPTION 4	LOW TO MODERATE

The results from the archaeological and heritage risk assessment would suggest Options 2 & 4 would cause least impact on archaeological sites and the landscape, and Option 4 would provide a greater opportunity for story telling and views of the estuary and pa.

Therefore there is slight preference to Option 4 and this is seen in a route plan provided by WBOPDC to show what this could fully look like in the landscape (figure 9).

Options 1 & 1A provide plausible alternatives but the doubt that exists over the location of significance archaeological sites recorded in the late 1800s – early 1900s, and their potential extents needs careful consideration. The further modification to site U13/89 on the Athenree side is also not recommended.

Option 3 remains a high risk route and its effects to a significant archaeological environment is too great for meaningful consideration, and includes an area determined as Waahi Taapu by local tangata whenua.

The five routes are seen in relation to each other in figure 8.



Figure 8; 1948 Aerial photograph, with crossing options and recorded pas marked. The areas of archaeological concern/significance are highlighted in red, and would represent the key areas of avoidance. Source, Retrolens.nz, SN229 488 88.



Figure 9: The preferred option. Route 4.

11 Maori Cultural Values

This is an assessment of effects on archaeological values and does not include an assessment of effects on Maori cultural values, except where specific acknowledgement of a Waahi Taapu area has been identified by kaumatua of Te Whanau a Tauwhao ki Otawhiwhi. Maori cultural concerns may encompass a wider range of values than those associated with archaeological sites.

The historical association of the area with tangata whenua is evident from the recorded sites, traditional histories and known Maori place names.

12 Survey Limitations

The results are subject to the limitations associated with the accuracy of the available data. This assessment has been undertaken as a desktop study and no fieldwork has been undertaken. Early survey plans and aerial photography have failed to identify any additional areas of archaeological concern.

13 Archaeological Value and Significance

The archaeological value and significance of the Waihi Beach, Bowentown, and Athenree area is notable, with 700 years of pre-European Maori activity, settlement and occupation in evidence. This evidence suggests that this earliest occupation started in or around Bowentown in the mid-14th century. The recorded sites demonstrate an intense and complex pre-European history existed, with defended coastal pa complexes, tool manufacturing, widespread Kaimoana processing, and intensive horticulture all present. Early European settlers are known to have established a community in Athenree and despite the lack of recorded archaeological sites in the area evidence is likely to remain. Most of the work is likely to take place in coastal reserves and is most likely to affect shell middens, storage pits and horticultural soils, some of these sites are likely to have undergone partial modification through various previous works in the vicinity, although it is to be expected that intact features/deposits would remain subsurface.

Value	
Condition	The condition of the potentially affected sites range from likely destroyed to fair-good condition where subsurface remains are likely to have remained intact. Where the route proposals sit, archaeology is thought to be in a fair, poor to destroyed condition, however the depth of the known archaeological remains may also result in evidence of good to very good condition due to its burial.
Rarity	The majority of potentially affected sites comprise shell midden deposits which are very common throughout the Waihi area and wider Bay of Plenty region. Other site types present including garden soils, food storage pits, structural post holes and lithic findspots are also common within the area, although slightly less common than shell midden sites. The established presence of early Maori arrival sites, ie pre-1500AD in this area, should be considered relatively rare, and coastal erosion, which is present in this area, may be further modifying/destroying these types of sites, increasing the value of retrieving archaeological information when possible.
Contextual Value	Individually, the sites form a minor part of an extensive and intensive pre- European Maori archaeological landscape of high value that extends across the Waihi Beach, Athenree and Bowentown areas, and the project scope may aid to link these in a tangible way, and also recognise them further, such as the definitive location of site U13/149 on the Waihi Beach side. Site U13/89 on the Athenree

	side is also a complex site demonstrating the breadth and complexity of Maori communities here, and this is further supported through the presence of major pa in close proximity to one another, and likely to support potentially high population numbers.
Information	There is limited information potential however ground works associated with
Potential	structural works required of the cycle/walk way may reveal new information that
	may require analysis such as radiocarbon dates. There is some probability that
	koiwi could be encountered based on traditional korero, though the area
	identified as waahi taapu has been avoided for this reason.
Amenity Value	There are high amenity values associated due to the construction of boardwalks
	and pathways. There is opportunity to create signage related to the archaeology,
	culture and history of the area, thereby expanding knowledge of users.
Cultural	The sites identified as potentially affected by the proposal are of Maori cultural
Associations	value. The cultural significance of the sites is for tangata whenua to determine.

14 Recommendations

Regardless of the route options assessed, all are located within an extensive, significant Maori landscape including pā, settlements and cultivations. In summary, the recommendations of this report are;

- This assessment suggests Route 4 would result in least impact to archaeology based on avoidance of known archaeology, a disturbed crossing point on the Waihi Beach side, reflection of tradition trackways and access point to the estuary on the Athenree side, education potential, amenity value, and a short crossing point closer to Island View.
- Route 2 has also been identified as a low risk position based on the absence or low risk of finding archaeology.
- Routes 1 and 1a begin and end within known archaeological sites and therefore not recommended.
- Route 3 impacts on an area considered waahi tapu at the base of Koutunui pa. It is further discounted due to the impacts on Koutunui pa and the potential of koiwi discovery.
- Any works in this area should be undertaken with regard NZ law, and therefore, regardless of the
 chosen route, a General Archaeological Authority granted by Heritage New Zealand Pouhere Taonga
 (HNZPT) is recommended to be in place before any ground works occur, and a Management Plan be
 compiled to guide works with regard archaeological monitoring, recording and compliance with the
 HNZPT Act 2014.

Ongoing consultation with tangata whenua is advised, and also with Heritage New Zealand Pouhere Taonga.

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ArchSite database

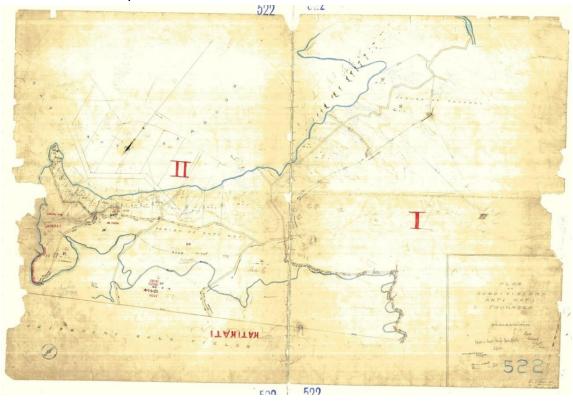
Historic Surveys www.quickmap.com: 1886 Survey Plan SO 4928

1871 Survey plan SO 522 1870 Survey Plan SO 522

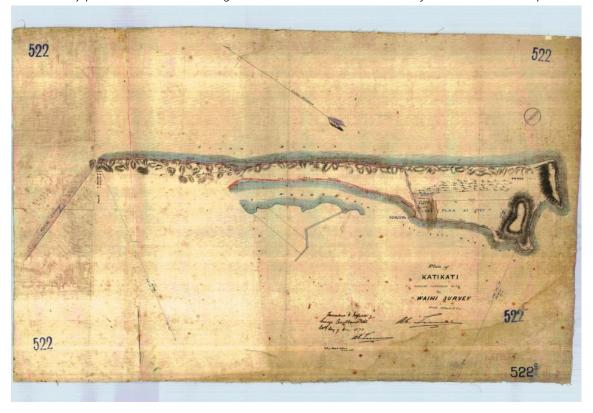
Historic Aerial Imagery www.retrolens.co.nz SN229 488 88

16 Appendix 1

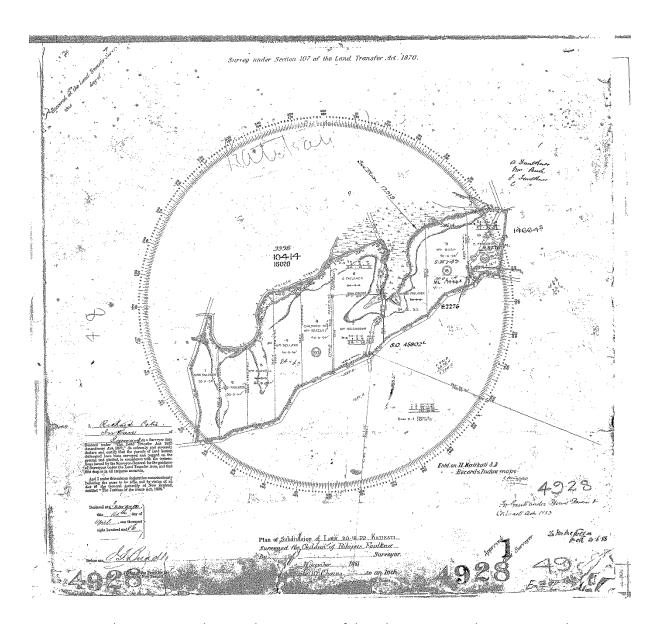
16.1 Historic Surveys



1871 Survey plan SO 522 C – Showing the Athenree Peninsula to the left. Source: QuickMaps.



1870 Survey Plan SO 522 - Showing the Waihi Beach to Bowentown Tombola. Source: QuickMaps



1886 Survey Plan SO 4928 – showing the east coast of the Athenree Peninsula. Source: QuickMaps

17 Appendix 2

17.1 Aerial Photographs



⊚Sourced from http://retrolens.nz and licensed by LINZ CC−BY 3.0

1948 Aerial Photograph of the Athenree Peninsula in relation to Waihi Beach and the Pacific Ocean, with detail below. Source: SN229 488 88 - Retrolens.nz. Below, close up of project area.

